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Application Number	09/867,301
Filing Date	05/29/2001
First Named Inventor	Robert H. Scheer
Art Unit	3627
Examiner Name	Fischetti, Joseph A.

Attorney Docket Number

31083.05US4

## ENCLOSURES (Check all that apply)

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## SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	Customer No. 34018 Greenberg Traurig, LLP		
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Date	January 23, 2007	Reg. No.	35,906

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Robert H. Scheer	)	Examiner:	Fischetti, Joseph A.
		)		
Serial No.:	09/867,301	)	Art Unit:	3627
		)		
Filed:	May 29, 2001	)	Attny Doc.:	31083.05US4
		)		
Title:	Method For Fulfilling An	)		
	Order In An Integrated	)		
	Supply Chain Management	)		
	System	)		

SUBSTITUTE APPEAL BRIEF

Mail Stop Appeal Briefs - Patents  
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Alexandria, VA 22313-1450

Dear Sir:

Appellants hereby submit this Substitute Appeal Brief and appeal to the Board of Patent Appeals and Interferences from the Examiner's final rejection of claims 1, 4-18, and 20-45 which rejection was set forth in the Office Action mailed May 5, 2006. A timely Notice of Appeal was filed.

The fee required by 37 CFR § 41.20 has been previously paid.

This Appeal Brief is being filed in triplicate.

The Commissioner is hereby authorized to charge any fee deficiency or credit overpayment to deposit account number 50-2428 in the name of Greenberg Traurig.

Certificate of Mailing: I hereby certify that this correspondence is being deposited with the U.S. Postal Service as First Class mail, postage prepaid, in an envelope addressed to: Mail Stop Appeal Briefs – Patents, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 23<sup>rd</sup> day of January, 2007.

By: Ranni Matar  
Ranni Matar

I. Real Party In Interest

The real party in interest is W.W. Grainger, Inc.

II. Related Appeals And Interferences

The following related applications have been before the Board on appeal:

09/867,068 and 09/867,174

The Decisions of the Board are attached as required.

III. Status Of The Claims

In the application, claims 1, 4-18, and 20-45 remain pending and, having been finally rejected, are the subject of this appeal. Claims 2, 3, and 19 were canceled during the course of prosecution.

The Section VIII appendix provides a clean, double spaced copy of pending claims 1, 4-18, and 20-45.

IV. Status Of Amendments

The claims are in condition for appeal – no amendments to the claims are pending.

V. Summary Of The Claimed Subject Matter

Per the Examiner, the following is a “concise” explanation of the subject matter defined in each of the independent claims involved in the appeal with reference being made to exemplary passages and figures within the corresponding published U.S. application 2002/0161674:

1. A method for moving one or more physical items in a supply chain that is distributed over a plurality of geographic locations, comprising:

extracting via a computer network information from a customer maintenance system

indicative of a change in a scheduled maintenance work order stored in the customer maintenance system to create an advance demand notice that includes a specification of the one or more physical items; (para. 0030-0032; Fig. 1 elements 201, 202) and

causing a network of intelligent software agents to extract from the advance demand notice information concerning the one or more physical items and use the information extracted from the advanced demand notice to move each of the one or more physical items to a respective at least one of the plurality of geographic locations within the supply chain as a function of a probability that the one or more physical items specified in the advance demand notice will be needed to be used during performance of the scheduled maintenance work order (para. 0030-0032; Fig. 1 elements 203, 204, and 205).

18. A method for moving one or more physical items in a supply chain that is distributed over a plurality of geographic locations, comprising:

extracting from a customer system information pertaining to a work order that specifies a piece of equipment to be repaired and the one or more physical items expected to be used during the repair procedure (para. 0030-0032; Fig. 1 elements 201, 202);

determining, using data extracted from an equipment knowledge database, a probability that each of the one or more physical items specified in the work order will be needed to effect the repair procedure (para. 0030-0032; Fig. 1 element 203) ;

using the determined probability to move the one or more physical items specified in the work order to a respective at least one of the geographic locations within the supply chain whereby the one or more physical items are made ready for use in the repair procedure (para. 0030-0032; Fig. 1 elements 204, 205);

extracting from the customer system information pertaining to a completion of the repair procedure (para. 0030-0032; Fig. 1 element 210) ; and

using the information pertaining to the completion of the repair procedure to populate the equipment knowledge database for use in future probability of need calculations (para. 0030-0032; Fig. 1 element 211) .

20. A computer-readable media having instructions for facilitating movement of a physical item in a supply chain that is distributed over a plurality of geographic locations, the instructions performing steps comprising:

extracting via a computer network information from a customer maintenance system indicative of a change in a scheduled maintenance work order to create an advance demand notice that includes a specification of the physical item (para. 0030-0032; Fig. 1 elements 201, 202);

extracting from the advance demand notice information concerning the one or more physical items (para. 0030-0032; Fig. 1 elements 201, 202); and

using the information extracted from the advanced demand notice to move each of the one or more physical items to a respective at least one of the plurality of geographic locations within the supply chain as a function of a probability that the one or more physical items specified in the advance demand notice will be needed to be used during performance of the scheduled maintenance work order (para. 0030-0032; Fig. 1 elements 203, 204, and 205).

35. A computer-readable media having instructions for moving one or more physical items in a supply chain that is distributed over a plurality of geographic locations, the instructions

performing steps comprising:

extracting from a customer system information pertaining to a work order that specifies a piece of equipment to be repaired and the one or more physical items expected to be used during the repair procedure (para. 0030-0032; Fig. 1 elements 201, 202);

determining, using an equipment knowledge database, a probability that each of the one or more physical items specified in the work order will be needed to effect the repair procedure (para. 0030-0032; Fig. 1 elements 201, 202); and

using the determined probability to move each of the one or more physical items specified in the work order to a respective at least one of the geographic locations within the supply chain whereby the one or more physical items are made ready for use in the repair procedure (para. 0030-0032; Fig. 1 elements 203, 204, and 205).

## VI. Grounds Of Rejection To Be Reviewed On Appeal

1. Whether the rejection under 35 U.S.C. § 103 of independent claims 1, 18, 20, and 35 based upon the combination of Abdel-Malek (U.S. Patent No. 6,959,235) and Yang (U.S. Publication No. 2001/0034673) can be maintained when the burdens associated with presenting a *prima facie* case of obviousness with respect to these independent claims have not been met.

2. Whether the rejection under 35 U.S.C. § 103 of claims 1, 4-18, and 20-45 based upon the combination of Abdel-Malek (U.S. Patent No. 6,959,235) and Yang (U.S. Publication No. 2001/0034673) can be maintained when the combination of Abdel-Malek and Yang fails to disclose all of the elements claimed.

3. Whether the rejection under 35 U.S.C. § 103 of claims 1, 4-18, and 20-45 based upon the combination of Abdel-Malek (U.S. Patent No. 6,959,235) and Yang (U.S. Publication No.

2001/0034673) can be maintained when Yang fails to suggest the modification of Abdel-Malek to arrive at the exact invention claimed.

4. Whether the rejection under 35 U.S.C. § 103 of certain dependent claim sets based upon the combination of Abdel-Malek (U.S. Patent No. 6,959,235) and Yang (U.S. Publication No. 2001/0034673) can be maintained when the burdens associated with presenting a *prima facie* case of obviousness with respect to those dependent claim sets have not been met.

## VII. Argument

### A) Status of the claims

In the application claims 1, 4-18, and 20-45 remain pending. No claims presently stand allowed.

### B) Summary of the rejection of the claims

All of claims 1, 4-18, and 20-45 stand rejected under 35 U.S.C. § 103 as allegedly being rendered obvious over Abdel-Malek (U.S. Patent No. 6,959,235) in view of Yang (U.S. Publication No. 2001/0034673).

In rejecting the claims, it was generally asserted that Abdel-Malek discloses a method for moving one or more physical items in a supply chain that is distributed over a plurality of geographic locations. It was further asserted that Abdel-Malek discloses extracting information from a customer maintenance system indicative of a change in a scheduled maintenance work order to create an advance demand notice that includes the specification of one or more physical items expected to be used during a repair procedure, extracting from the customer maintenance system information pertaining to a completion of the repair procedure and using the information

to populate an equipment knowledge base for use in future probability of need calculations, and the concept of providing maintenance where a knowledge base or experience database of data and people is utilized. It was acknowledged, however, that Abdel-Malek fails to disclose, teach, or suggest using a network of intelligent software agents to move each of one or more physical items specified in an advance demand notice to a respective at least one of a plurality of geographic locations within a supply chain as a function of a probability of need for each of the one or more physical items.

While it was acknowledged that Abdel-Malek fails to disclose, teach, or suggest these claimed elements, it was not asserted that Yang discloses these claimed elements. Rather, the rejection continued by asserting that Yang generally discloses the concept of planning and managing parts inventory for entities in a supply chain as well as the concept of monitoring a customer system to adopt a replenishment model to maintain a steady inventory of service parts. Based upon these generally disclosed concepts, it was concluded that it would have been obvious to modify the monitoring diagnostic service center of Abdel-Malek “to include a network of intelligent software agents as taught by Yang in order to fulfill service parts between one or more customer locations” to thereby arrive at the invention recited in all of claims 1, 4-18, and 20-45.

### C) Applicable Law

It is well settled that, with respect to every claim that is subject to examination, the burden is on the Office, when attempting to present a *prima facie* case of obviousness, to at least:

- a) allege that the references being relied upon teach or suggest all of the claimed elements; and
- b) allege that there exists some suggestion or motivation to combine elements selected from the references to thereby arrive at the invention that is set forth in the claims. *See* MPEP § 2142. As concerns the combining of elements from the references, the Office has the additional burden of

particularly explaining why a relied upon combination of elements is proper. To this end, a rejection of the claims must, at the very least, provide a rational explanation as to why and how one of ordinary skill in the art would have combined the elements to arrive at the exact invention that is set forth within the claims. *See* MPEP § 706.02(j) and *In re Lee* 277 F.3d 1338, 1343-46 (Fed. Cir. 2002).

More particularly, a determination of obviousness requires that a combination of prior art references include each and every element set forth in the claims, considering each and every word. It is impermissible to distill an invention down to the “gist” or “thrust” as this disregards the requirement of analyzing the subject matter “as a whole.” *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984). In addition, this requirement that the claimed invention be considered “as a whole” is meant to prevent evaluation of an invention part by part, i.e., breaking an invention into its component parts and then merely finding a reference containing one part, another reference containing another part, etc., and to prevent the impermissible use of the specification of the applicant as a template to combine these parts for the purpose of deprecating the invention claimed. Thus, to assure that such “hindsight reasoning” is not used when assessing the patentability of a claimed invention, a rejection based upon a combination of references requires a demonstration that an artisan of ordinary skill in the art at the time of the invention, confronted with the same problems and with no knowledge of the claimed invention, would have selected the various parts from the references and combined them in the claimed manner. *In re Fritch*, 972 F.2d 1260, 1266 (Fed. Cir. 1992). The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant’s disclosure. *In re Vaeck*, 947 F.2d 488 (Fed. Cir. 1991).

D) The Burdens Associated With Presenting A *Prima Facie* Case Of Obviousness With Respect To The Independent Claims Have Not Been Met

The subject matter defined in each of independent claims 1, 18, 20, and 35 generally functions to facilitate movement of physical items within a supply chain that is distributed over a plurality of geographic locations. To this end, a work order is stored in a computerized maintenance management system (“CMMS”). The work order stored in the CMMS is generally created from automated monitoring of the customer equipment, preventive maintenance planning, periodic and routine maintenance schedules, planned maintenance projects or unplanned equipment failures and includes information such as possible repair parts, consumables, supplies, and tools and equipment needed for a repair task. An intelligent agent system works in connection with the CMMS system and monitors for any entered or modified work orders. The intelligent agent system functions to extract data from a work order to create an advance demand notice for items that may be required for a particular maintenance task. The system also includes a distributor system which receives the advance demand notice from the intelligent agent system and which functions to initiate a staging of the items specified within the advance demand notice within a supply chain to meet an expected use of the items during the maintenance procedure. For example, the distributor system may take into consideration the probability that the item(s) listed in the work order will be needed in the maintenance task and/or if the customer already has the item(s) in house or if the item(s) will be needed from the distributor or a supplier.

Thus, among other things, the subject matter defined in the independent claims has the advantage of automatically and immediately responding to a change, rescheduling, modification, or cancellation of a maintenance work order since the intelligent agent system that monitors the maintenance system will detect any such alterations and allow for a change in the advance

demand notice and, accordingly, changes in actions initiated by the distributor system, if necessary.

Considering now the outstanding rejection of the claims, it is respectfully submitted that the rejection of the claims fails to meet the burdens associated with presenting a *prima facie* case of obviousness for the reason that the rejection of the claims fails to allege that all of the elements set forth in the independent claims may be found in Abdel-Malek or Yang (whether considered alone or in combination). Leaving aside for the moment the fact that the elements within certain of the dependent claims have never been addressed by the Examiner, it is respectfully noted that the rejection of the claims never alleges that Abdel-Malek, Yang, *or even* *Abdel-Malek as modified by Yang* includes the expressly claimed element of causing a network of intelligent agents to move items to respective ones of a plurality of geographic locations within a supply chain as a function of a probability that one or more items specified in an advance demand notice will be needed to be used during performance of a scheduled maintenance work order. Rather, the rejection ignores at least this expressly claimed element and merely concludes that the claims are obvious for the alleged reason that it would have been obvious to modify Abdel-Malek according to Yang to thereby arrive at a system that *generally* includes a network of intelligent agents to fulfill service parts between one or more customer locations. By failing, however, to even allege that all of the elements set forth within the independent claims may be found in the references being relied upon *even when combined*, it is evident that the rejection of the claims has impermissibly distilled the claimed invention down to its “gist” or “thrust,” i.e., the claims were distilled down to a system that *generally* uses a network of intelligent agents to fulfill service parts between customer locations while ignoring at least the claimed moving of the items to locations within a supply chain as a function of a

probability that the items will be needed to be used during performance of a scheduled maintenance work order. Since this form of rejection cannot be said to present a *prima facie* case of obviousness under 35 U.S.C. § 103 it is respectfully submitted that the rejection of the claims under 35 U.S.C. § 103 must be withdrawn. *See* MPEP § 2143.03.

i) The Combination Of Abdel-Malek And Yang Fails  
To Disclose All Of The Elements Claimed.

It is respectfully submitted that the rejection of the claims has impermissibly failed to consider all of the elements set forth within the claims for the simple reason that neither Abdel-Malek nor Yang discloses, teaches, or suggests at least the expressly claimed element of a network of intelligent agents to move items to respective ones of a plurality of geographic locations within a supply chain as a function of a probability that one or more items specified in an advance demand notice will be needed to be used during performance of a scheduled maintenance work order.

That Abdel-Malek fails to disclose this expressly claimed element has been acknowledged in the rejection of the claims. In addition, it is respectfully noted that, rather than disclose that which is claimed, Abdel-Malek discloses a system in which items are moved to a repair facility merely as a function of an item specified in a scheduled work order being stocked at the repair facility at a level below a predetermined inventory threshold. (Col. 10, lines 26-41).

As for Yang, it is respectfully noted that, when Yang is considered in its entirety as is required, nothing from within Yang can be said to disclose, teach, or suggest this expressly claimed element. Rather, Yang discloses the desirability of using a long term forecast to anticipate needs for parts to thereby establish inventory thresholds at various nodes within a supply chain in hopes of avoiding excess inventories of certain parts and no availability of others. Rather than disclose, teach, or suggest a responsive system such as the one that is

expressly claimed, the methodology disclosed within Yang is utilized before even a suggestion of a specific need for a part exists. Thus, like Abdel-Malek, Yang also fails to disclose, teach, or suggest the desirability of moving items to respective ones of a plurality of geographic locations within a supply chain as a function of a probability that one or more items specified in an advance demand notice will be needed to be used during performance of a scheduled maintenance work order. Accordingly, since neither Abdel-Malek nor Yang, whether considered alone or in combination, can be said to disclose, teach, or suggest all of the elements recited in the independent claims, it is submitted that the combination of Abdel-Malek and Yang cannot support a *prima facie* case of obviousness and the rejection under 35 U.S.C. § 103 must be withdrawn.

ii) Yang Fails To Suggest Modifying Abdel-Malek  
To Arrive At The Exact Invention Claimed

It is further respectfully submitted that the rejection of the claims fails to meet the burdens associated with presenting a *prima facie* case of obviousness for the reason that the rejection of the claims never sets forth any reasoned explanation as to why or how one of ordinary skill in the art would have used the *general* teachings of Yang to modify Abdel-Malek to arrive at the invention that is *specifically* set forth in the claims. In particular, it is respectfully submitted that it is not evident nor has it been explained why or how modifying Abdel-Malek “to include the network of intelligent software agents in order to fulfill service parts between one or more customer locations” would lead one of skill in the art to modify Abdel-Malek to include the expressly claimed element in which intelligent software agents specifically move items to plural locations within a supply chain “as a function of a probability that one or more items specified in an advance demand notice will be needed to be used during performance of a scheduled maintenance work order.”

While this deficiency alone is enough to demonstrate that the rejection of the claims fails to establish a *prima facie* case of obviousness and that the rejection of the claims under 35 U.S.C. § 103 should be withdrawn, it is nevertheless respectfully submitted that, when Yang is considered in its entirety as is required, Yang simply fails to expressly suggest the desirability of modifying Abdel-Malek to arrive at the invention that is specifically claimed. As discussed above, Yang discloses the desirability of using a long term forecast to anticipate needs for parts to thereby establish inventory thresholds at various nodes within a supply chain in hopes of avoiding excess inventories of certain parts and no availability of others before even a suggestion of a specific need for a part exists. Thus, rather than suggest modifying Abdel-Malek to arrive at the invention that is particularly set forth within the claims, Yang, at most, describes nothing more than a method for establishing the predetermined inventory threshold levels used by Abdel-Malek. While the disclosure within Yang might therefore be said to *supplement* the disclosure within Abdel-Malek, it is evident that nothing from Yang can be said to suggest *modifying* Abdel-Malek to arrive at a system such as the one claimed, namely, one that actively functions to move items within the supply chain in response to a work order/scheduled maintenance activity being entered into a customer maintenance system with the items being moved to locations within the supply chain as a function of a probability that the items will be needed for use in the maintenance activity. Thus, it is respectfully submitted that, when Abdel-Malek and Yang are considered in their entirety, as is required, it is evident that neither Abdel-Malek nor Yang, whether considered alone or in combination, can be said to have any disclosure that would lead one of ordinary skill in the art to arrive at the exact invention claimed, particularly considering ALL of the claims. For this further reason it is respectfully submitted that the combination of

Abdel-Malek and Yang cannot support a *prima facie* case of obviousness and the rejection of the claims under 35 U.S.C. § 103 must be withdrawn.

**E) The Burdens Associated With Presenting A *Prima Facie* Case Of Obviousness With Respect To Certain Dependent Claim Sets Have Not Been Met**

The rejection fails to present a *prima facie* case of obviousness as concerns certain of the *dependent* claims since, among other things, the rejection never asserts that the elements set forth within these claims may be found in either Abdel-Malek or Yang (which they simply cannot). For example, it has never been asserted that the references disclose the elements set forth within dependent claims 4 and 21 (e.g., modifying an existing advance demand notice), dependent claims 6, 23, and 38 (e.g., coordinating with a carrier via a computer network to move the items), dependent claims 7-9, 24-26, and 40 (e.g., using the intelligent agents to form a fulfillment plan and forming an alternative fulfillment plan if needed), dependent claims 10, 11, 27, 28, 41 and 42 (e.g., from a supplier initiating the staging of the items or replenishing moved items), dependent claims 12 and 29, (e.g., using a customer defined level of service), dependent claims 13 and 30 (e.g., converting an advance demand notice to a purchase order), dependent claims 16 and 33, (e.g., using a probability specified in an advance demand notice), or dependent claims 17, 34, and 45 (e.g., using sourcing options specified by a customer to provide item alternatives). Accordingly, it is respectfully submitted that that at least these dependent claim sets must also be found to be individually allowable.

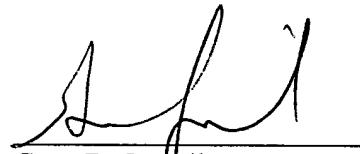
F) Conclusion

It is respectfully submitted that the application is in good and proper form for allowance.

Such action of the part of the Board is respectfully requested.

Respectfully Submitted;

By:



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VIII. Claims Appendix

The following is a clean copy of the claims involved in the appeal:

1. A method for moving one or more physical items in a supply chain that is distributed over a plurality of geographic locations, comprising:

extracting via a computer network information from a customer maintenance system indicative of a change in a scheduled maintenance work order stored in the customer maintenance system to create an advance demand notice that includes a specification of the one or more physical items; and

causing a network of intelligent software agents to extract from the advance demand notice information concerning the one or more physical items and use the information extracted from the advanced demand notice to move each of the one or more physical items to a respective at least one of the plurality of geographic locations within the supply chain as a function of a probability that the one or more physical items specified in the advance demand notice will be needed to be used during performance of the scheduled maintenance work order.

4. The method as recited in claim 1, wherein the step of extracting information from a customer maintenance system indicative of a change in a scheduled maintenance work order comprises modifying an existing advance demand notice.

5. The method as recited in claim 1, further comprising the step of using an electronic equipment knowledge database to determine the probability of need for each of the one or more physical items.

6. The method as recited in claim 1, further comprising the step of coordinating with a carrier

via a computer network to move each of the one or more physical items within the supply chain.

7. The method as recited in claim 6, further comprising the step of using the intelligent software agents to form a fulfillment plan for use in moving each of the one or more physical items within the supply chain.

8. The method as recited in claim 7, further comprising the step of monitoring via a computer network the movement of each of the one or more physical items within the supply chain.

9. The method as recited in claim 8, further comprising the step of forming an alternative fulfillment plan for use in moving each of the one or more physical items to at least one of the plurality of geographic locations within the supply chain if the intelligent software agents determine from the monitoring that the supply chain is unable to meet a previously formed fulfillment plan commitment.

10. The method as recited in claim 1, further comprising the step of ordering each of the one or more physical items from a supplier via a computer network to initiate the staging movement of the one or more physical items within the supply chain.

11. The method as recited in claim 1, further comprising the step of ordering each of the one or more physical items from a supplier to replenish the physical items at the at least one of the plurality of geographic locations within the supply chain as each of the one or more physical items are moved to at least one different one of the plurality of geographic locations within the

supply chain.

12. The method as recited in claim 1, further comprising the step of using a customer defined level of service to move each of the one or more physical items specified in the advance demand notice.

13. The method as recited in claim 1, further comprising the step of determining if the probability of need for a physical item specified in the advance demand notice is 100% and, if so, converting the advance demand notice into a purchase order for that physical item.

14. The method as recited in claim 1, further comprising the step of using the states of inventory of each of the one or more physical items at one or more of the plurality of geographic locations within the supply chain to move each of the one or more physical items specified in the advance demand notice within the supply chain.

15. The method as recited in claim 1, further comprising the step of taking into account a desired level of safety stock of each of the one or more physical items at one or more of the plurality of geographic locations when moving each of the one or more physical items specified in the advance demand note notice within the supply chain.

16. The method as recited in claim 1, wherein the advance demand notice specifies the probability that each of the one or more physical items will be needed to be used during performance of the scheduled maintenance work order.

17. The method as recited in claim 1, further comprising the step of using sourcing options specified by a customer to provide physical item alternatives to one or more of the one or more physical items specified in the advance demand notice.

18. A method for moving one or more physical items in a supply chain that is distributed over a plurality of geographic locations, comprising:

extracting from a customer system information pertaining to a work order that specifies a piece of equipment to be repaired and the one or more physical items expected to be used during the repair procedure;

determining, using data extracted from an equipment knowledge database, a probability that each of the one or more physical items specified in the work order will be needed to effect the repair procedure;

using the determined probability to move the one or more physical items specified in the work order to a respective at least one of the geographic locations within the supply chain whereby the one or more physical items are made ready for use in the repair procedure;

extracting from the customer system information pertaining to a completion of the repair procedure; and

using the information pertaining to the completion of the repair procedure to populate the equipment knowledge database for use in future probability of need calculations.

20. A computer-readable media having instructions for facilitating movement of a physical item in a supply chain that is distributed over a plurality of geographic locations, the instructions

performing steps comprising:

extracting via a computer network information from a customer maintenance system indicative of a change in a scheduled maintenance work order to create an advance demand notice that includes a specification of the physical item;

extracting from the advance demand notice information concerning the one or more physical items; and

using the information extracted from the advanced demand notice to move each of the one or more physical items to a respective at least one of the plurality of geographic locations within the supply chain as a function of a probability that the one or more physical items specified in the advance demand notice will be needed to be used during performance of the scheduled maintenance work order.

21. The computer-readable media as recited in claim 20, wherein the step of extracting information from a customer maintenance system indicative of a change in a scheduled maintenance work order comprises modifying an existing advance demand notice.

22. The computer-readable media as recited in claim 20, wherein the instructions perform a step of using an electronic equipment knowledge database to determine the probability of need for the physical item.

23. The computer-readable media as recited in claim 20, wherein the instructions perform a step of coordinating with a carrier via a computer network to move the physical item within the supply chain.

24. The computer-readable media as recited in claim 23, wherein the instructions perform a step of forming a fulfillment plan for use in moving the physical item within the supply chain.
25. The computer-readable media as recited in claim 24, wherein the instructions perform a step of monitoring via a computer network the movement of the physical item within the supply chain.
26. The computer-readable media as recited in claim 25, wherein the instructions perform a step of forming an alternative fulfillment plan for use in moving the physical item to at least one of the plurality of geographic locations within the supply chain if it is determined from the monitoring that the supply chain is unable to meet a previously formed fulfillment plan commitment.
27. The computer-readable media as recited in claim 20, wherein the instructions perform a step of ordering the physical item from a supplier via a computer network to initiate movement of the physical item within the supply chain.
28. The computer-readable media as recited in claim 20, wherein the instructions perform a step of ordering the physical item from a supplier to replenish the physical items at the at least one of the plurality of geographic locations within the supply chain as the physical item is moved to at least one different one of the plurality of geographic locations within the supply chain.

29. The computer-readable media as recited in claim 20, wherein the instructions perform a step of using a customer defined level of service to move the physical item specified in the advance demand notice.

30. The computer-readable media as recited in claim 20, wherein the instructions perform a step of determining if the probability of need for the physical item specified in the advance demand notice is 100% and, if so, converting the advance demand notice into a purchase order for the physical item.

31. The computer-readable media as recited in claim 20, wherein the instructions perform a step of using states of inventory of the physical item at one or more of the plurality of geographic locations within the supply chain to move the physical item specified in the advance demand notice within the supply chain.

32. The computer-readable media as recited in claim 20, wherein the instructions perform a step of taking into account a desired level of safety stock of the physical item at one or more of the plurality of geographic locations when moving the physical item specified in the advance demand notice within the supply chain.

33. The computer-readable media as recited in claim 20, wherein the advance demand notice specifies the probability that each of the one or more physical items will be needed to be used during performance of the scheduled maintenance work order.

34. The computer-readable media as recited in claim 20, wherein the instructions perform a step of using sourcing options specified by a customer to provide physical item alternatives to the physical item specified in the advance demand notice.

35. A computer-readable media having instructions for moving one or more physical items in a supply chain that is distributed over a plurality of geographic locations, the instructions performing steps comprising:

extracting from a customer system information pertaining to a work order that specifies a piece of equipment to be repaired and the one or more physical items expected to be used during the repair procedure;

determining, using an equipment knowledge database, a probability that each of the one or more physical items specified in the work order will be needed to effect the repair procedure; and

using the determined probability to move each of the one or more physical items specified in the work order to a respective at least one of the geographic locations within the supply chain whereby the one or more physical items are made ready for use in the repair procedure.

36. The computer-readable media as recited in claim 35, wherein the instructions perform a step of extracting from the customer system information pertaining to a completion of the repair procedure.

37. The computer-readable media as recited in claim 36, wherein the instructions perform a step

of using the information pertaining to the completion of the repair procedure to populate the equipment knowledge base for use in future probability of need calculations.

38. The computer-readable media as recited in claim 35, wherein the instructions perform a step of coordinating with a carrier via a computer network to move each of the one or more physical items within the supply chain.

39. The computer-readable media as recited in claim 35, wherein the instructions perform a step of monitoring via a computer network the movement of each of the one or more physical items within the supply chain.

40. The computer-readable media as recited in claim 39, wherein the instructions perform a step of forming an alternative fulfillment plan for use in moving each of the one or more physical items to at least one of the plurality of geographic locations within the supply chain if it is determined from the monitoring that the supply chain is unable to meet a previously formed fulfillment plan commitment.

41. The computer-readable media as recited in claim 35, wherein the instructions perform a step of ordering each of the one or more physical items from a supplier via a computer network to initiate movement of the one or more physical items within the supply chain.

42. The computer-readable media as recited in claim 35, wherein the instructions perform a step of ordering each of the one or more physical items from a supplier to replenish the physical items

at the at least one of the plurality of geographic locations within the supply chain as each of the one or more physical items are moved to at least one different one of the plurality of geographic locations within the supply chain.

43. The computer-readable media as recited in claim 35, wherein the instructions perform a step of considering states of inventory of each of the one or more physical items at one or more of the plurality of geographic locations within the supply chain when moving each of the one or more physical items.

44. The computer-readable media as recited in claim 35, wherein the instructions perform a step of taking into account a desired level of safety stock of each of the one or more physical items at one or more of the plurality of geographic locations when moving each of the one or more physical items.

45. The computer-readable media as recited in claim 35, wherein the instructions perform a step of using sourcing options specified by a customer to provide physical item alternatives to one or more of the one or more physical items.

**IX. Evidence Appendix**

No evidence is being submitted herewith.

X. Related Proceedings Appendix

Copies of decisions rendered by the Board in related applications 09/867,068 and 09/867,174 are submitted herewith.

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